

FISH & RICHARDSON P.C.

EX PARTE OR LATE FILED

Frederick P. Fish
1855-1930

W.K. Richardson
1859-1951

January 5, 1999

By Hand Delivery

Ms. Magalie Roman Salas
Secretary
Federal Communications Commission
The Portals TW-A325
445 12th Street, SW
Washington, DC 20554

601 Thirteenth Street N.W.
Washington, DC 20005

Telephone
202 783-5070

Facsimile
202 783-2331

Web Site
www.fr.com

BOSTON
NEW YORK
SILICON VALLEY
SOUTHERN CALIFORNIA
TWIN CITIES
WASHINGTON, DC

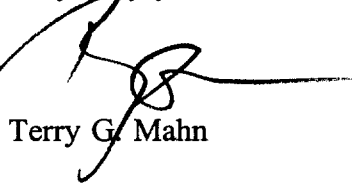
Re: 1998 Biennial Regulatory Review -- Amendment of Part 18 of the
Commission's Rules to Update Regulations for RF Lighting Devices
ET Docket No. 98-42

Dear Ms. Salas:

Pursuant to Section 1.1206(a)(2) of the Commission's Rules, and on behalf of
Fusion Lighting Corporation, this letter is to report oral and written ex parte
communications in the above-reference proceeding.

On January 4, 1999, Dan Tessler of Fusion Lighting and I met with Ari Fitzgerald
of Commissioner Kennard's office and Julius Knapp of the Office of Engineering
and Technology. The purpose of the meeting was to provide rebuttal evidence to
materials provided by various Part 15 device manufacturers on the theoretical in-
band interference issues associated with 2.45 GHz RF lighting. Information
presented at the meeting is enclosed herewith.

Very truly yours,



Terry G. Mahn

/seg
Enclosure/Original & Copy

No. of Copies rec'd 071
List ABOVE

cc: Mitchell Lazarus [w/encl.]
Dan Tessler, Fusion Lighting [w/o encl.]
Michael Ury, Fusion Lighting [w/o encl.]
Ellen Ranard, Esq., Fusion Lighting [w/o encl.]

94113.W11

**MISCONCEPTIONS ABOUT 2.45 GHz RF
LIGHTING IN *EX PARTE* FILING OF
WIRELESS LAN MANUFACTURERS
DOCKET ET 98-42**

RECEIVED

JAN 5 1999

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

"RF Lighting Proponents Have Declined or Refused to Share Data"

- Fusion Lighting is under no legal or regulatory obligation to test for in-band emissions
- Fusion was never asked by wireless LAN manufacturers for in-band test data; Fusion was asked, on short notice, to do joint testing
- Fusion products have been available on the market for several years for LAN manufacturers to test
- Fusion provided the FCC Labs with a sample RF lighting device in 1996 that was tested for in-band emissions

**MISCONCEPTIONS ABOUT 2.45 GHz RF
LIGHTING IN *EX PARTE* FILING OF
WIRELESS LAN MANUFACTURERS
DOCKET ET 98-42**

RECEIVED

JAN 5 1999

COMMUNICATIONS SECTION
FEDERAL BUREAU OF INVESTIGATION
U.S. DEPARTMENT OF JUSTICE

"Severe and Widespread Interference Will Occur From RF Lighting"

- *Ex Parte* data was based on worst case RF safety limits which have no applicability to RF interference
- *Ex Parte* data assumed 8 watts of radiation; in fact, the Fusion Lamp radiates only 50 milliwatts
- Fusion lamps sold in Europe are 20 dB below IEC/CISPR Publication 15 limits for ISM band lighting (100 dBuV/m)
- Fusion lamps are CE-marked and have been on EU market for several years with no reports of interference

**MISCONCEPTIONS ABOUT 2.45 GHz RF
LIGHTING IN *EX PARTE* FILING OF
WIRELESS LAN MANUFACTURERS
DOCKET ET 98-42**

RECEIVED

JAN 5 1999

COMMUNICATIONS SECTION
FEDERAL BUREAU OF INVESTIGATION
U.S. DEPARTMENT OF JUSTICE

***Ex Parte* Proposal Will "Shield 98% of Emissions Passing 95% of Light
for Pennies Per Unit"**

- Proposal implies Fusion is an uncaring RF designer
- Projected RF attenuation (98%) is a theoretical value that assumes perfect conductivity of the wire mesh
- Proposal assumes a wire diameter of .003"; no known wire of such dimension can be fabricated from a material with perfect conductivity at 2.45 GHz -- certainly not at "pennies per unit"

**MISCONCEPTIONS ABOUT 2.45 GHz RF
LIGHTING IN *EX PARTE* FILING OF
WIRELESS LAN MANUFACTURERS
DOCKET ET 98-42**

**Proposal Will "Shield 98% of Emissions Passing 95% of Light for
Pennies Per Unit"**

- Fusion invests considerable resources in RF shielding on the assumption that any lamp which causes interference to a 2.45 GHz LAN systems will be refused installation or returned by the customer
- Fusion already implements a secondary RF shield in the cover glass on all of its lamps which outperforms the proposed solution both optically and in terms of RF attenuation
- Fusion's RF shield costs \$12 per lamp

**MISCONCEPTIONS ABOUT 2.45 GHz RF
LIGHTING IN *EX PARTE* FILING OF
WIRELESS LAN MANUFACTURERS
DOCKET ET 98-42**

**"Allowing RF Lighting to Proliferate in U.S. Without In-Band Limits
Effectively Disrupts International Usage of the 2.45 GHz Band"**

- The 2.45 GHz band is harmonized internationally for ISM priority
- Unlicensed use of the 2.45 GHz band for LAN devices is non-harmonized outside the U.S.

**MISCONCEPTIONS ABOUT 2.45 GHz RF
LIGHTING IN *EX PARTE* FILING OF
WIRELESS LAN MANUFACTURERS
DOCKET ET 98-42**

RECEIVED

JAN 5 1999

**"Other Part 18 Devices Are Used Individually Whereas Lighting Devices
Are Installed In Multiple Units Per Site"**

- Microwave ovens are installed in multiple units per site in tens of thousands of restaurant and food outlets throughout the world

**MISCONCEPTIONS ABOUT 2.45 GHz RF
LIGHTING IN *EX PARTE* FILING OF
WIRELESS LAN MANUFACTURERS
DOCKET ET 98-42**

FILED

JAN 6 1999

WIRELESS

**"FCC Requested Comments on Whether It May Be Necessary To
Establish In-Band Limits"**

- Docket 98-42 requested comment ONLY on licensed services (MSS) in the upper portion of the 2.45 GHz band
- Docket 98-42 invited no comment on Part 15 interference issues

**MISCONCEPTIONS ABOUT 2.45 GHz RF
LIGHTING IN *EX PARTE* FILING OF
WIRELESS LAN MANUFACTURERS
DOCKET ET 98-42**

RECEIVED

JAN 6 1999

COMMUNICATIONS DIVISION
FEDERAL COMMUNICATIONS COMMISSION

**"FCC Invited The Part 15 Industry To Develop Equipment Using The
2.45 GHz ISM Band"**

- In 1985 (Docket 81-413 - spread spectrum), the FCC refused to adopt higher limits for Part 15 because of the "danger" that:

"steady encroachment on [the ISM] bands by [such] services will eventually lead to petitions from these other users for protection from interference from ISM devices."

**MISCONCEPTIONS ABOUT 2.45 GHz RF
LIGHTING IN *EX PARTE* FILING OF
WIRELESS LAN MANUFACTURERS
DOCKET ET 98-42**

80712 DATED

JAN 6 1999

WIRELESS LAN

**"FCC Should Consider Input on Part 15 Spread Spectrum Devices When
Authorizing New Types of Part 18 Devices"**

- In 1997 (Docket 96-8 - spread spectrum) the FCC stated:

The manufacturers and operators of spread spectrum transmitters are reminded that the operation of Part 15 devices is subject to the conditions that any received interference, including interference from ISM operations, must be accepted and that harmful interference may not be cause to other radio services.

2.45 GHz BAND LIMITS

<u>Device Type</u>	<u>Limits</u>	<u>Rule</u>
RF Lighting and ISM	None	18.301 CISPR 11
Wireless LAN	4 Watts EIRP	15.247
Field Disturbance Sensors	500 mV/m	15.245
International RF Lighting	333 mV/m	CISPR 15
All Other Part 15	50 mV/m	15.249
Wireless LAN Proposal for U.S. RF Lighting	1 mV/m	